

WHAT IS CLAIMED IS:

1. A hybrid vehicle, comprising:
 - an internal combustion engine;
 - 5 a motor which can output power to a driving shaft coupled with an axle;
 - an electric power storage device which can store electric power obtained by converting at least part of power from the internal combustion engine to electric power, and which can supply the electric power to the motor;
 - a required driving force setting controller which sets a required driving
 - 10 force required for running according to an operation by a driver; and
 - a start time controller which starts the internal combustion engine after a predetermined time has elapsed since an instruction for starting the vehicle is given by an operator if the required driving force set by the required driving force setting controller is equal to or smaller than a predetermined driving force and the vehicle can
 - 15 run using only the motor.
2. The hybrid vehicle according to claim 1, wherein an amount of electric power stored in the electric power storage device is equal to or larger than a predetermined value when the vehicle can run using only the motor.
- 20 3. The hybrid vehicle according to claim 1, further comprising:
 - a temperature detecting controller which detects a temperature of coolant for the internal combustion engine; and
 - a delay time setting controller which sets a delay time by which start of the
 - 25 internal combustion engine is delayed based on the detected temperature, wherein the start time controller starts the internal combustion engine using the delay time set by the delay time setting controller as the predetermined time.
4. The hybrid vehicle according to claim 3, wherein the delay time setting
- 30 controller sets a delay time to be shorter as the detected temperature is lower.

5. The hybrid vehicle according to claim 3, wherein the delay time setting controller sets the delay time based on a driving state of an air-conditioning device provided in a vehicle compartment.

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6. The hybrid vehicle according to claim 1, wherein the start time controller starts the internal combustion engine when the predetermined time has elapsed since the instruction for starting the vehicle is given.

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7. The hybrid vehicle according to claim 1, wherein the predetermined time is longer than a preparation time necessary for making a sensor, which is used for operation of the internal combustion engine, function properly.

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8. The hybrid vehicle according to claim 1, further comprising:
a preheating controller which stores heat generated by the internal combustion engine during operation, and which preheats the internal combustion engine using the stored heat when the internal combustion engine is started, wherein the predetermined time is longer than a time necessary for completing preheating of the internal combustion engine by the preheating controller.

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9. The hybrid vehicle according to claim 1, wherein the internal combustion engine is connected to the driving shaft so as to be able to output power to the driving shaft.

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10. A hybrid vehicle, comprising:
an internal combustion engine;
a motor which can output power to a driving shaft coupled with an axle;
electric power storage means for storing electric power obtained by converting at least part of power from the internal combustion engine to electric power, and for supplying the electric power to the motor;

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required driving force setting means for setting a required driving force that is required for running based on an operation by a driver; and

start time control means for delay in the starting of the internal combustion engine until after a predetermined time has elapsed since an instruction for starting the vehicle is given by an operator if the required driving force set by the required driving force setting means is equal to or smaller than a predetermined driving force.

11. A control method of a hybrid vehicle including an internal combustion engine, a motor which can output power to a driving shaft coupled with an axle, and an electric power storage device which can store electric power obtained by converting at least part of power from the internal combustion engine to electric power and which can supply the electric power to the motor, comprising the steps of:

setting a required driving force required for running according to an operation of a driver; and
starting the internal combustion engine after a predetermined time has elapsed since an instruction for starting the vehicle is given if the required driving force is equal to or smaller than a predetermined driving force and the vehicle can run using only the motor.

12. The control method according to claim 11, wherein when the vehicle can run using only the motor, an amount of stored electric power which is obtained by converting part of power from the internal combustion engine into electric power is equal to or larger than a predetermined value.

13. The control method according to claim 11, further comprising the steps of:
detecting a temperature of coolant for the internal combustion engine;
setting a delay time by which start of the internal combustion engine is delayed based on the detected temperature; and
starting the internal combustion engine based on the set delay time.

14. The control method according to claim 13, wherein the delay time is set to be shorter as the detected temperature is lower.

5 15. The hybrid vehicle according to claim 13, wherein the delay time is set based on a driving state of an air-conditioning device provided in a vehicle compartment.

10 16. The control method according to claim 11, wherein the internal combustion engine is started at a time point at which the predetermined time has elapsed since the instruction for starting the vehicle is given.

15 17. The control method according to claim 11, wherein the predetermined time is longer than a preparation time necessary for making a sensor, which is used for operation of the internal combustion engine, function properly.

18. The control method according to claim 11, further comprising the step of:
storing heat generated by the internal combustion engine during operation,
and preheating the internal combustion engine using the stored heat when the internal
combustion engine is started, wherein the predetermined time is longer than a time
20 necessary for completing preheating of the internal combustion engine.